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1. (ORIGINAL) A method for obtaining a measurement value of a three-dimensional shape of an object, using a grid image formed by projecting a plurality of grid patterns upon the object to be measured, the method comprising the steps of:

projecting the grid patterns upon the object to be measured, the grid patterns comprising a plurality of one-dimensional grids of different colors, each having a slistinctive period and direction;

imaging the grid patterns deformed in accordance with the three-dimensional shape of the object to be measured;

separating from the grid image each of the one-dimensional grids of deferent colors;

detecting a phase for each of the one-dimensional grids; and obtaining the measurement value on the basis of the detected phases.

- 2. (ORIGINAL) The method for obtaining a measurement value of a three-dimensional shape of an object as recited in claim 1, wherein the colors of the che-dimensional grids of different colors are red, green and blue.
- 3. (ORIGINAL) The method for obtaining a measurement value of a three-dimensional shape of an object as recited in claim 2, wherein the colors of the ne-dimensional grids of different colors are projected through a plurality of prism thechanisms by a plurality of white light sources.
- 4. (ORIGINAL) The method for obtaining a measurement value of a rece-dimensional shape of an object as recited in claim 2, wherein the grid patterns comprise dots.
- 5. (ORIGINAL) The method for obtaining a measurement value of a hree-dimensional shape of an object as recited in claim 1, wherein the grid patterns comprise sinusoidal lines.
- 6. (ORIGINAL) The method for obtaining a measurement value of a ihree-dimensional shape of an object as recited in claim 1, wherein a straight line connecting a center of a projection lens which projects the grid patterns with a center of an image formation lens which senses the images of the grid patterns is parallel to a reference surface on which the object to be more assured is placed.



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- (ORIGINAL) The method for obtaining a measurement value of a 7. these-dimensional shape of an object as recited in claim 6, wherein an optical axis of the image formation lens is perpendicular to the reference surface.
- (ORIGINAL) The method for obtaining a measurement value of a three-dimensional shape of an object as recited in claim 1, further comprising the step of measuring color information of the object to be measured by imaging the object using w⊧ite light.
- (ORIGINAL) The method for obtaining a measurement value of a three-dimensional shape of an object as recited in claim 1, wherein the phases for each or the one-dimensional grids have periods that when compared to each other have ratios represented by prime numbers.
- 10. (ORIGINAL) The method for obtaining a measurement value of a tiree-dimensional shape of an object as recited in claim 9, wherein a measurement s ensitivity ratio for transforming a height of the object into a phase value is determined from a periodic ratio in a horizontal direction of the one-dimensional grids.
- 11. (CURRENTLY AMENDED) The method for obtaining a measurement value of a three-dimensional shape of an object, using a grid image formed by projecting a lurality of grid patterns upon the object to be measured, the method comprising the teps of:

projecting the grid patterns upon the object to be measured, the grid patterns comprising a plurality of at least three one-dimensional grids of different colors, each having a distinctive period and direction;

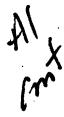
imaging the grid patterns deformed in accordance with the three-dimensional shape of the object to be measured;

separating from the grid image each of the one-dimensional grid components of different colors;

obtaining an intensity distribution of spatial frequency spectnums through Fourier-transformation;

selectively extracting spectral components corresponding to the spatial frequ ncy spectrums by means of a spatial frequency filter;

performing an inverse two-dimensional Fourier transform on the selected spectral component;



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detecting a phase for each of the one-dimensional grid components; and obtaining the measurement value on the basis of the detected phases.

12. (CURRENTLY AMENDED) A method for obtaining a measurement value of 13 three-dimensional shape of an object, using a grid image formed by projecting a plarality of grid patterns upon the object to be measured, the method comprising the steps of:

projecting the grid patterns upon the object to be measured the grid praterns comprising a plurality of at least three one-dimensional grids of different colors, erich having a distinctive period and direction;

imaging the grid patterns deformed in accordance with the three-dimensional shape of the object to be measured;

separating from the grid image each of the one-dimensional grid components of different colors;

extracting, selectively, through a two-dimensional filter window function ε desired spectrum and inversely Fourier transforming the spectrum to obtain a two-dimensional impulse response function;

carrying out a direct, two-dimensional convolution operation on the two-dimensional impulse response function to obtain spectral components orresponding to the one-dimensional grid components;

detecting a phase for each of the one-dimensional grid components; and obtaining the measurement value on the basis of the detected phases.